

The Fragmentation of Global Production and Trade in Value-Added — Building on existing measures of Cross Border Trade¹

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Introduction

“Global production has become increasingly fragmented and different stages of production are now regularly performed in different countries. As inputs cross borders multiple times, traditional statistics on trade values—measured in gross terms—do not reflect economic reality in respect of the value added in any particular country.” This is the opening of the workshop program and the main theme of today’s workshop.

Similarly, Global Production and Trade in Value-Added were among the main themes of the Global Forum on Trade Statistics, which was organized in February of this year by the United Nations Statistics Division (UNSD) together with Eurostat, WTO and UNCTAD. The forum received high-level attention from policy makers and was attended by almost 200 trade statisticians from all around the globe. Pascal Lamy stressed in his presentation the importance of relevant trade statistics in a globalized world stating that all trade-negotiations in the end deal with numbers.

A number of issues have been raised explicitly or implicitly in the discussion paper on “tracing value-added in international trade” prepared for this workshop by Mattoo, Wang and Wei. I would like to clarify these issues from the perspective of official trade statistics and will highlight at the same time the ongoing efforts to improve trade statistics, also to the benefit of the research on trade in value-added. My note should be read in connection with the discussion paper and the documents of the Global Forum².

¹ Note presented at the Workshop on the Fragmentation of Global Production and Trade in Value-added, 9-10 June 2011, World Bank, Washington DC. The views expressed in this note are those of the author and do not necessarily reflect those of my colleagues or of my organization.

² See http://unstats.un.org/unsd/trade/s_geneva2011/outcome.htm

Clarification of some underlying issues

Issue 1: Collection of value-added trade data?

First of all, I want to state clearly that detailed trade statistics by product and partner countries in terms of gross values will remain necessary input for many analytical purposes including IO research. It is not desirable to collect trade statistics in other than gross values. Aside from the fact that such statistics are necessary for agriculture, energy, environment and transportation statistics, quality assurance frameworks of trade statistics are for a large part based on a consistent relation between the value and the quantity of the traded goods. This will hold true whether data is collected via enterprise surveys or through customs documents. Additional information will need to be collected, if you want to decompose the gross values into domestic and foreign content, or further refinements. I will mention some of those additional elements below. The objective of discussions today is to find ways to publish trade data in value-added terms, but such objective is not equivalent to collecting trade data in value-added terms.

Issue 2: Customs records or enterprise surveys?

The answer is: we need both sources of data. The most important source of trade data is and will be the customs data. In fact, trade statisticians should advocate more forcefully to keep detailed customs information on importation and exportation documents. The Trade community (traders and enterprises) puts pressure on the government to facilitate customs procedures, and have been successful in some ways. We should realize that enterprise surveys can be no where near as detailed or as timely as customs records. Enterprise surveys will cover necessarily fewer goods, give less detail on trading partners, and will be obtained less frequently. The greatest value of enterprise surveys will be as an addition to customs records. These surveys could then focus on specific questions, such as how much of the manufacturing processes of an enterprise are done under contract on behalf of foreign enterprises.

Issue 3: Linking trade and business statistics

The main topic of today's discussion is the fragmentation of the global production processes. The implication is that we want to know more about the strategies of businesses which operate globally in their production. To reiterate a point often made, trade is not done between countries, but between businesses. Session 4 of the Global Forum on Trade Statistics was devoted in full to the issue of Global production and Outsourcing of Business Functions³ with presentations among others by Timothy Sturgeon on Measuring Global Value Chains and by Peter Boegh Nielsen on International sourcing of business functions. These research projects investigate directly the global business strategies and need from the statistical community further development of classifications on intermediate products and on business functions. Another related outcome of the Global Forum on Trade Statistics was to better link trade and business statistics by⁴

- Developing a common basis across all relevant national institutions to identify enterprises active in international trade, including multinational enterprises and their foreign affiliates;
- Developing and maintaining a statistical trade information system at micro-level around the enterprise register, including multi-national enterprises and their foreign affiliates; and
- Establishing this statistical information system – under observance of relevant confidential rules - by making optimal use of and connecting existing data sources, such as custom-based merchandise trade statistics, trade and business registers, economic census data, existing enterprise surveys, other administrative records, and possibly data sources for employment, environment, or energy;

Issue 4: Cross border trade and the Change of ownership principle

The main issue of contention between trade statisticians and national accountants has not been an issue of valuation, but the issue of “change of ownership”. According to SNA, an

³ See http://unstats.un.org/unsd/trade/s_geneva2011/outcome.htm

⁴ See http://unstats.un.org/unsd/trade/s_geneva2011/Global_Forum_on_Trade_Statistics-detailed_vision_statement-15Mar2011.pdf

international transaction in goods takes only place if there has been a change of ownership between a resident and a non-resident. When a good crosses the border, it does not necessarily mean that there was a change in ownership. International merchandise trade statistics (IMTS) cover goods which add to or subtract from the stock of material resources of a country by entering (imports) or leaving (exports) its economic territory. This basis differs from the change of ownership between residents and nonresidents required for balance of payments⁵ and national accounts. This controversy is the backdrop to the discussion on the international sourcing of production processes, better known as the issue of “goods for processing abroad” or “processing trade” (Mattoo, Wang and Wei) or “manufacturing services on physical inputs owned by others” (Balance of Payments Manual, 6th edition). In the context of Global production and GVCs, this issue is probably the most important one.

Issue 5: International sourcing of production processes

International trade has been at the centre of many recent discussions on globalization, be it through the off-shoring of the production process, operations of multinationals, foreign direct investments or trade negotiations. Production processes of garments, motor vehicles, televisions or computers are now often spread across several countries not only to reduce labor and capital costs but also, for instance, to benefit from investment incentives offered by the host countries. Even though treatment of goods for processing in the statistical sense is by no means a new discussion, it gained a lot of new attention because of its increasing economic importance, especially for economies like China and Mexico.

My proposal for measuring trade statistics in relation to international sourcing of production processes is as follows:

1. Link detailed merchandise trade statistics to the business register. This matching process may not be perfect, but is essential in deriving results;

⁵ See <http://www.imf.org/external/pubs/ft/bop/2007/pdf/chap10.pdf>

2. Conduct a survey among enterprise of the manufacturing industries and determine the percentage of processing done under contract by enterprise and industry;
3. Link the enterprise survey to the merchandise trade statistics via the business register, and determine the volume and kind of imported and exported goods, which is associated to “processing under contract”.

The end result will be trade statistics broken down by product, industry and partner country, with a separate breakdown of processing under contract. BOP compilers could then use this information to adjust the trade in services and trade in goods statistics.

Ideally, an enterprise census is done at 5-year intervals in addition to a survey, as is – for instance – the case for the 2011 economic census to be conducted by Malaysia. This approach will give official statistics on intermediate goods processing by industry and product. Note that even within multi-nationals it is possible that inputs in the production process are actually acquired by the foreign affiliate. The Bank of Thailand conducted a survey which showed that the top 3 electronics manufacturers in Thailand buy the inputs into its production, which raises the issue of transfer pricing, which I will not discuss here.

The international recommendations for IMTS were revised in 2010 (IMTS 2010) and contain new recommendations for a number of additional data elements which will be useful in the analysis of the globalization issues, namely (1) additional valuation of FOB for imports, (2) country of consignment for imports and exports, which will facilitate tracing the routes the goods take, (3) indication of customs procedures for inward and outward processing, and (4) mode of transport. IMTS 2010 also recommends to link trade to business statistics; this recommendation has been emphasized in recent months.

Issue 6: UNSD and IO tables

Paul Cheung, Director of the United Nations Statistics Division, will give a presentation next week at the 19th International Input-Output Conference to be held next door in Alexandria, VA. He will go into more detail on the relation between official statistics and

input-output analysis. One of the points he may make is that if a country does not have the source data, the resource capacity or expertise to provide value added by industry, gross domestic product by expenditures in current and constant prices, and gross national income, then the country will not be in a position to produce a fully articulate input-output table. In this regard, it will be useful to update the UN input-output Handbook to reflect all relevant changes introduced with the 2008 SNA, keeping in view that the Handbook should be a practical compilation guide for countries at varying levels of statistical development.

Conclusion

In conclusion, I am advocating for two parallel and mutual supportive developments. On one hand, improve official trade statistics by linking them to business statistics, and on the other hand improve the compilation of input-output tables with support of for instance an updated Handbook on Input-Output tables.